DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-029898
Date Inspected: 30-Jul-2013

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	Jesus Cayabyab,Bernie Docena			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☐ No	☑ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Quality Assurance Inspector (QA) Joe Adame arrived at the American Bridge/Fluor (ABF) JV job site between the times noted above in order to monitor ABF Quality Control functions and the in process work being performed by ABF production personnel. The following items were observed:

In Process Visual Inspection
RWR201305-009
ESW W-043, Location “V”-Face B
The QA Inspector observed, at random intervals, ABF welder Mike Jimenez (WID-4671) performing Shield Metal Arc Welding (SMAW) of the repair excavation on Electroslag Weld (ESW) “V”, at face B location noted as:
Y= 6200~7000mm
L= 800mm
W= 80mm
D= 70mm
Welder 4671 was observed preheating the weld to over 300° Fahrenheit prior to welding using the Miller ProHeat 35 with heat induction blankets. The welder was using 4.0mm diameter electrode (E7018-1 HR4) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3. The welding parameters were verified by ABF Quality Control (QC) Inspector Bernie Docena with a Flukemeter and preheat was verified with temperature indicators. The welding observed appeared to be in compliance with the WPS noted above. Welding is approx. 50% complete at this location.

UT of Tower Electroslag Welds:

The QA Inspector was present to perform Ultrasonic Testing (UT) verification on Electroslag (ESW) welds on the interior of the Tower utilizing both the “pulse echo” (PE) technique and the “pitch and catch” (PC) technique for further discontinuity evaluation on ESW welds. The UT inspection was performed as a joint inspection with ABF/JV Quality Control (QC) Smith Emery NDT personnel. The QA Inspector performed joint UTSW Pitch/Catch with QC Inspector Jesse Cayabyab on the items listed below:

ESW S-045 Location “G”-60mm Thick, 70° Angle (Results below):
Y: 4675mm, X: -10mm

Face A, PEUT: Ind. Lvl (A): 64, Ref. Lvl (B): 51,	Att. Factor(C): 7,	Ind. Rating (D): 6,	SD (E): 105
Face A, PCUT: Ind. Lvl (A): 83, Ref. Lvl (B): 51,	Att. Factor(C): 12,	Ind. Rating (D):20,	SPa (E): 121
Face B, PEUT: Ind. Lvl (A): 67, Ref. Lvl (B): 51,	Att. Factor(C): 3,	Ind. Rating (D): 13,	SD (E): 54
Face B, PCUT: Ind. Lvl (A): 87, Ref. Lvl (B): 51,	Att. Factor(C): 12,	Ind. Rating (D):24,	SPa (E): 221

ESW E-045 Location “F”-60mm Thick, 70° Angle (Results below):
Y: 9405mm, X: -3mm

Face A, PEUT: Ind. Lvl (A): 70, Ref. Lvl (B): 51,	Att. Factor(C): 6,	Ind. Rating (D): 13,	SD (E): 100
Face A, PCUT: Ind. Lvl (A): 81, Ref. Lvl (B): 51,	Att. Factor(C): 12,	Ind. Rating (D): 18,	SPa (E): 130

Face B -PEUT: Ind. Lvl (A): Non Recordable Indication.
Face B -PCUT: Ind. Lvl (A): Non Recordable Indication.

ESW S-043 Location “T”-80mm/100mm Thick, 70° Angle (Results below):
Y: 8955mm, X: N/A Face A,B
-PEUT: Ind. Lvl (A): Non Recordable Indication.
-PCUT: Ind. Lvl (A): Non Recordable Indication.

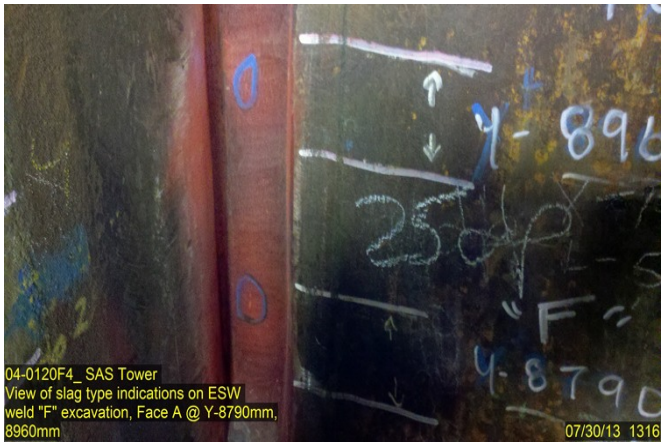
ESW pitch & catch UT was performed per ABF Sup. Procedure 3 UT of ESW Groove Welds Pitch- Catch. The tandem UT report for work performed on this date will be completed by QC Inspector Jesse Cayabyab and signed by both QA/QC parties to be presented to ABF & CT METS for further review.

Investigative excavation
ESW E-045,”F”-Face A:
RWR201307-004
The QA Inspector was later present to observe ABF welder Simon Ma performing exploratory excavation of ESW “F” Face A @ Y-8790mm, 8960mm to verify indications observed during Ultrasonic Testing pulse/echo & pitch/catch. Mr. Ma was performing grinding on the excavation. ABF QC Inspector Jesse Cayayab stated that Mr. Ma will excavate every 3mm deep and allow QC/QA to inspect the excavation. Location of the repair is as follows:
Weld excavated at 23mm- Linear indication (slag) @8840, X=-15, L= 4mm
Weld excavated at 23mm- Linear indication (slag) @8790, X=-15, L= 4mm
Weld excavated at 23mm- Linear indication (slag) @8960, X=-15, L= 5mm
Weld excavated at 23mm- Linear indication (slag) @8740 removed.
Weld excavated at 25mm- Linear indication (slag) @8840, X=-15, L= 4mm remains
Weld excavated at 25mm- Linear indication (slag) @8790, X=-15, L= 4mm remains
Weld excavated at 25mm- Linear indication (slag) @8960, X=-15, L= 5mm remains

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Excavation Length Y=8680mm~9090mm (Excavation work in progress to be continued on the next work shift) After grinding to bright metal the QC Inspector performed MT testing of the excavation to inspect for weld discontinuities at each hold point. See TL-6028 for additional details on items inspected on this date.



Summary of Conversations:

Only general conversations with ABF/JV QC NDT personnel relevant to work and testing performed during this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Adame,Joe	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer